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What Is "Free"?

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In at least three of the RFC's about "mail" and the File Transfer Protocol (RFC's 454, 475, 479), something very like the following is asserted: "Network mail should be free; i.e., no login or USER command should be required." Unfortunately, "i.e." (=that is) is misleading. It simply does not follow to imply that the only way mail can be free is for it not to require a login; explicit login on a free account would of course also work. Indeed, depending upon per-Host idiosyncracies in the Logger / Answering Service / process creation environment, an explicit login may well prove to be far more natural than an implicit login. (Even in environments where implicit login is easy, surely explicit login is just as easy.) Granted, login on a free account requires users to remember the name of the free account. However, this would not be too great a burden to bear if there were reasons for preferring an explicit login <u>and</u> if the free account had the same name on all Hosts. Therefore, from the premise that Network protocols should not implicitly legislate "unnatural" implementations for participating Hosts if it is conveniently avoidable, I propose the following formulation:

> Network mail should be free. Network mail should not require users to remember the name of the free account on a given system. I.e., it should either be "loginless" or it should take the same login everywhere. But some systems need/want/prefer a login. Therefore, USER NETML / PASS NETML should be made to work everywhere for free mail.
>
> Note: "NETML" is fewer than six characters and is upper case; hence, it should fit in the least common denominator category of user identifiers, but it's still long enough not to conflict with anybody's initials (in all probablility).

Now, because of the implementation implications this may all sound like special pleading, but I claim that another implication of the "incorrect" formulation will further show the superiority of an explicit login for mail. For the "loginless" view leads to problems in regard to the authentication aspects of login and the accounting aspects, by apparently assuming that the sole purpose of login is to initiate accounting. In RFC 475, the problem is exposed when, after noting that some systems allow access control to be applied to mailboxes, it is asserted that the FTP USER command is wrong for access control because you'd then be on the free account and a new FTP FROM command would be right. (Presumably, FROM would be followed by PASS.) Being reasonably familiar with one of the systems which does allow access control on mailboxes, let me point out how it works: permissible "principal identifiers" are placed on the "access control list"

of the mailbox, and when the mailbox is referenced by a process the principal identifier of that process must match (explicitly or as a member of a class) an entry on the list or access will be forbidden. But the principal identifier is associated with the process at login. Now, it is probably a valid objection to say that accounting should be separated from authentication, but it isn't always. So why invent a redundant mechanism based on the assumption that it is?

Another point on authentication via login: it has been argued that FTP mail ought to be so cheap that it "can be buried in overhead"; by the same token, if it's so cheap it shouldn't bother anybody to login on his own account if he wants to prove the mail's from himself.

To be scrupulous, I should close by mentioning the possibility that NETML might be repugnant to some Hosts. If such be the case, then I propose that a new FTP FREE command be introduced so that Servers need not recognize MAIL as an implicit login. The reasons here are at least twofold: First, it appears that when the "subcommands" to MAIL get worked out, some of them will have to precede the MAIL (or users will get awfully tired of typing their names, etc.); therefore, the list of commands which imply a login will grow and grow and Server FTP's will have to change and change. Second, if MAIL implies a login, it will be hard in some environments to get the arguments across to the process created on behalf of the mailer (and it is not a good idea at all to assume that the mailing can be handled by the process which is listening on socket 3). Even introducing a new mechanism (and see RFC 451 for my strong feelings against that sort of step in general) in FREE seems better than making all the assumptions that the loginless alternative does.

Note that an alternative to this whole line of reasoning would be simply to observe that the FTP is internally inconsistent in that it acknowledges on the one hand (in the definition of the USER command) that some systems may require USER / PASS and then (mis)states on the other hand (in the discussion of mail) that they may not. If this abstract point is more satisfying to some readers than the foregoing pragmatic argument, well and good.